

February 2009, Number 189

GROWTH AND LOCAL GOVERNMENT SPENDING IN GEORGIA

Introduction

This brief is a technical analysis that estimates the effect of local government spending on economic growth at the county level in Georgia. Recent studies in the growth and economic development literature have emphasized the impact of government spending on growth at the national and state levels, but few of these studies have attempted to identify growth-enhancing government expenditures at the local level. Such studies are of great importance from a policy design point of view for the reason that if there is evidence of a positive effect of government spending on economic growth, it would be imperative to identify the adequate spending compositions needed to improve the growth impact of local government spending.

Potential Links between Economic Growth and Local Government Expenditures

According to Bartik (2003), Bell et al. (2005), and the local economic development literature in general, economic growth and economic development in a particular jurisdiction are primarily determined by the strength of the private sector in that jurisdiction; in particular, its level of investment and economic activity. Furthermore, theoretical and empirical literature on the determinants of growth and development and surveys of business executives suggest that business location decisions are first and foremost affected by

factors (or economic fundamentals) such as access to markets, cost and quality of labor, quality transportation systems and infrastructure (e.g. roads, highways, airports, railroad systems, telecommunications, and sewer systems), access to raw materials and supplies, utility costs, and measures of quality of life such as good schools, quality institutes of higher education, health services, recreational facilities, low crime, affordable housing, and good weather.

The aforementioned studies argued that through their discretionary power over taxing and spending policies and regulatory policies, state and local governments may affect economic growth and economic development by developing and investing in public services that have a positive impact on the above mentioned economic fundamentals; fundamentals that are crucial in attracting businesses and economic activity in a specific jurisdiction. Specifically, Bell et al. (2005) indicated that in general, survey research studies have led to the conclusion that “state and local spending in a number of sectors that influence directly the cost of doing business and the quality of the labor force rank ahead of taxes as a major determinant in business location decisions” (Bell et al. 2005, 56). In other words, although local tax policy as well as economic fundamentals has been known to affect business location decisions, what matters more than

the level of tax in a particular locality is how revenues are used to finance local public services that prove attractive to businesses looking to relocate or expand. It is within this context that we examine the extent to which local government expenditures affect economic growth at the county level in Georgia.

Beyond the question of how local governments could affect economic growth through their provision of local public services, there is also the issue of reverse causality, namely that economic growth could potentially induce larger local government expenditures (this is the endogeneity or simultaneity bias). Evidently, if expenditure variables are not strictly exogenous, the resulting empirical estimation of the impact of local public spending on economic growth would be in general biased and inconsistent. Some measures were taken to correct or reduce this endogeneity issue.

Empirical Analysis

Variables Description and Data Sources

In this brief, we examine whether local expenditures at the county level affect economic growth in Georgia. The data used are for all 159 counties in the state pooled over the years 1992, 1997, and 2002. In this study, we choose change in per capita personal income as the variable of interest to represent economic growth for the reason that it reflects per person changes in economic well-being at the county level.

The description and source of all variables used in the analysis are presented in Table I. It is important to note that all government finance data, which are government finances of *all* local governments aggregated at the county area level, are expressed in current dollars. We use a logarithm transformation to stabilize the variance of random or seasonal fluctuations in the monetary variables.

Empirical Methodology

To examine the impact of local government spending on economic growth in Georgia, we use the pooled ordinary least squares (OLS) estimation and a two-stage least square (2SLS) procedure. In addition, we apply various econometric techniques in an attempt to address potential econometric issues. A natural logarithm transformation is applied to most explanatory variables in order to reduce the potential nonlinear effects of and the variability in the data. We also control for potential heteroskedasticity in the error term. Heteroskedasticity is present whenever the variance of

per capita personal income growth rate change with any of the explanatory variables. In the presence of heteroskedasticity, the OLS estimation is no longer efficient. To correct the standard errors for heteroskedasticity, the results will be reported using the White heteroskedasticity-robust standard errors.

Another important econometric issue that has been frequently raised in the economic development literature is the simultaneous equation bias (this is another form of endogeneity of explanatory variables). The simultaneity bias would arise when one or more explanatory variables are determined simultaneously with the dependent variable and thus correlated with the error term. In this empirical analysis, the problem of simultaneity arises because the level of local expenditures (and tax revenues) might be explained in part by economic growth at the county level. Various approaches could be used to correct or reduce the simultaneity bias that generally affects an OLS estimation of an equation in a simultaneous equations model (SEM).

One of these approaches would be to estimate the relationship between the percentage change in per capita personal income and government expenditures at the local level using a two-stage least squares (2SLS) procedure, i.e. an instrumental variables estimation technique where instruments (new exogenous variables) are introduced to replace the problematic explanatory variables.

Another approach would be to use lagged values of the explanatory variables instead of the contemporary observations in the model specification. The lagged values would then be considered as pseudo-instruments in the regression and their effect would be to lessen the endogeneity issue stemming from the causality of the relationship between local per capita income growth rate and local expenditures (and tax revenues) or simply allow us, to some extent, to avoid the simultaneity problem. It could also be argued that the effects of local spending on the percentage change in per capita income are not immediate and that therefore introducing lagged explanatory variables in the model specification would be more appropriate.

Empirical Results and Discussion

Estimation Results with Current Local Government Finance Data

The 2SLS estimation results suggest that per capita total debt outstanding at the end of the fiscal year is the only government finance variable in our model that is found to promote economic growth at the local level. The estimated coefficient on outstanding debt per capita is positive and statistically significant at the 5 percent level; which indicates that, on average, a 1 percentage point increase in outstanding debt per capita will result in

TABLE I. VARIABLE DESCRIPTIONS

County Level		
Variables	Description	Sources
Incgrowth	Per capita Personal Income growth (five-year growth rate)	Bureau of Economic Analysis (Local area annual estimates) ¹
Population	Population, in whole numbers	
Educ_Fte	Elementary and Secondary Education, Total Expenditures Per FTE Student (\$)	U.S. Census Bureau (County Area Finance) & GA Department of Education (for FTE data) ²
Fire/police	Police and fire protection, Total Expenditures per capita (\$)	U.S. Census Bureau (County Area Finance) ³
Health_hosp	Health and Hospitals, Total Expenditures per capita (\$)	id.
Highways	Total Highways, Total Expenditures per capita aggregated at the county level (\$)	id.
Housing/Parks	Housing, Community Development and recreational per capita Expenditures (\$)	id.
Welfare	Public Welfare, Total Expenditures per capita (\$)	id.
Sewerage	Sewerage, Total Expenditures per capita (\$)	id.
Debt	Total Debt Outstanding at the end of the FY per capita (\$)	id.
Millrate	Property Tax Rates (Millage Rates, County Unincorporated and School)	Georgia Department of Revenue, (Local Government Services Division) ⁴
Salesrate	County Sales Tax Rates (%)	Georgia Department of Revenue ⁵
Urban	Dummy Variable equal to 1 if county population >=100,000 and zero otherwise	id.
Unemployment	County Unemployment Rates, Annual Averages (%)	Bureau of Labor Statistics (Local Area Unemployment Statistics) ⁶

¹ <http://www.bea.gov/regional/reis/default.cfm?catable=CA1-3§ion=2>, accessed September 17, 2008.

² http://app3.doe.k12.ga.us/ows-bin/owa/fte_pack_enrollgrade.entry_form, accessed September 17, 2008.

³ <http://www2.census.gov/pub/outgoing/govs/special60/>, accessed September 17, 2008.

⁴ <http://www.etax.dor.ga.gov/PTD/cds/csheets/millrate.aspx>, accessed September 17, 2008.

⁵ <http://www.etax.dor.ga.gov/salestax/index.aspx>, accessed September 17, 2008.

⁶ <http://www.bls.gov/lau/#tables>, accessed September 17, 2008.

approximately a 2.5 percentage point increase in per capita personal income growth, holding everything else constant.

This result could be explained by the fact that per capita total debt outstanding at the end of the fiscal year represents short-term and long-term commitments to improve and maintain utilities and educational quality. As expected and previously discussed, any infrastructure improvements should promote economic growth.

Additionally, it is not surprising that current growth in per capita income at the county level is affected by past economic growth (lagged one time period i.e. five years). The estimated coefficient on past economic growth is positive and significant at the 10 percent level. This result indicates that if the growth rate of per capita income 5 years ago was 1 percent higher, then the growth rate of per capita income today is expected to be on average about 0.16 percent higher, holding everything else constant.

The finding concerning the impact of the *average annual unemployment* rates is consistent with the theory; a high annual average unemployment rate will detract from economic growth. The coefficient on the annual average unemployment rate is negative and equal to 1.14 percent and is significant at the 5 percent level.

Among the remaining expenditure variables, results suggest that per capita expenditure on sewerage appears to be negatively related to local economic growth. Based on our hypotheses, we would expect per capita spending on sewer systems to be associated with economic growth at the local level, considering that enterprise funds expenditures for sewer construction, operation, and maintenance are considered significant factors in industrial location to the extent that they finance infrastructure improvement essential to attract businesses. Surprisingly, the estimated coefficient on per capita spending on sewage systems is negative and statistically significant at the 5 percent level, and this result proved robust to another model specification where the percentage change in the per capita personal income is regressed on local government finance variables lagged one time period. In the context of Georgia, this unexpected result could be explained by the fact that what matters most to promote economic growth at the county level would be the water and sewer capability or efficacy rather than the level of spending on sewer systems itself. Currently, Georgia is facing serious sanitary and combined sewer overflows, especially in urban areas, despite considerable amounts of money spent on the sewer system.¹ As explored in the second section of the brief,

enterprise funds expenditures, especially water and sewer systems represented the largest share of per capita total expenditures across all reporting counties between 1997 and 2007. This may potentially discourage businesses looking to relocate or expand due to foreseen increases in the cost of doing business in a particular locality.

Finally, the 2SLS estimated coefficients also suggest that per FTE student spending on elementary and secondary education is positively related to economic growth although the effect is not statistically significant.

Additionally, estimated coefficients on per capita expenditures on health and hospitals and public welfare take on the expected sign but they have no significant effect on per capita income growth rate at the county level in Georgia, and so are property and sales tax rates.

Estimation Results with Lagged Local Government Finance Data

As aforementioned, an alternative specification model was estimated for the purpose of sensitivity analysis, using local government finance variables lagged one time period as explanatory variables. In general, the results remain robust to the change in specification. However, now the estimated coefficient on the county sales tax rate is negative and statistically significant at the 10 percent level. Specifically, if the sales tax rate at the county level 5 years ago was 1 percent lower, then the growth rate of per capita income today would be on average about 1.24 percent higher, holding everything else constant. This result, although not robust against alternative model specification, seems to confirm that local tax policy may affect business location decisions and thus economic activity.

Summary

This brief analyzes the effect of local government spending on economic growth at the county level in the state of Georgia. This study is of particular interest from a policy design point of view for the reason that if there is evidence of a positive effect of various categories of local government expenditure on economic growth, it would be imperative to identify adequate spending compositions needed to improve the growth impact of these local government spending policies.

An important finding is that per capita total debt outstanding at the end of the fiscal year seems to promote economic growth at the local level. The Census Bureau classifies the “purpose” of state and local government long-term debt in two categories:

(a) *general debt* which includes elementary and secondary education, higher and other education, public debt for private purposes, and all other debt; (b) *utility debt* which includes water supply systems, electric power systems, natural gas supply systems, and public mass transit systems (U.S. Census 2006). Per capita total debt outstanding at the end of the fiscal year thus represents short-term and long-term commitments on the part of the counties to improve infrastructure in terms of utilities and educational quality. As such, short-term and long-term total outstanding debt per capita would reflect investments that would improve the well-being of the county level population at large.

Contrary to what might reasonably be expected, we also found that per capita expenditure on sewerage and per capita spending on highways appear to be negatively related to local economic growth. In the context of Georgia, with regard to the sewer system, this unexpected result could be explained by the fact that what matters most to promote economic growth at the county level would be the water and sewer capability or efficacy rather than the level of spending on sewer systems itself. Currently, Georgia is facing serious sanitary and combined sewer overflows, especially in urban areas, despite considerable amounts of money spent on the sewer system. This may potentially discourage businesses looking to relocate or expand due to foreseen increases in the cost of doing business in a particular locality. With regard to highway expenditures, the negative impact on economic growth may stem from “pork barrel” politics that would transform per capita spending on highways at the county level from mainly an investment function to a consumption function.

In general, our empirical analysis of local government expenditures and economic growth reveals that government expenditures have no predictable statistical significance on economic growth at the county level in Georgia. According to the Local Government Finance Highlights Report (Georgia Department of Community Affairs 2007), administration costs by counties in Georgia amounted to \$981.42 million (12.21 percent of total expenditures) respectively in 2006, compared to \$139 million on public works, \$153 million on community development, \$441.15 million for highways, streets and drainage, and \$255,000 in spending for education. In order to improve the process by which local government expenditure policies shape the prospect of economic growth, rather than focusing on levels of government expenditures alone, it would appear beneficial to local governments in Georgia to focus on

strengthening economic fundamentals such as safe and good quality roads and access to good quality highways or railroad, efficient utility systems, and skilled labor.

NOTES

¹See <http://ga.water.usgs.gov/publications/wrir00-4139.pdf>, and <http://ga.water.usgs.gov/publications/abstracts/wrir96-4302.html>, accessed October 10, 2008.

REFERENCES

Bartik, Timothy J. (2003). “Local Economic Development Policies.” Upjohn Institute Staff Working Paper #03-91. Kalamazoo MI: The W.E. Upjohn Institute for Employment Research.

Bell, Michael, David Brunori, Richard Green, Hal Wolman, Joe Cordes, and Tanya Qadir (2005). “State and Local Fiscal Policy and Economic Growth and Development.” Working Paper #26. Washington DC: George Washington Institute of Public Policy (GWIPP), The George Washington University.

Georgia Department of Community Affairs (2007). “Local Government Finance Highlights Report, 2007: Finance Highlights.” Atlanta GA: Georgia Department of Community Affairs.

U.S. Census Bureau (2006). “Government Finance and Employment Classification Manual: 2006 Classification Manual.” Washington DC: U.S. Census Bureau.

ABOUT THE AUTHOR

Nara Monkam is a research associate in the Fiscal Research Center of the Andrew Young School of Policy Studies at Georgia State University. Her research interests include state public finance and development economics especially in the areas of foreign aid, economic and political institutions in developing countries. Nara Monkam is from Cameroon and holds a Bachelor’s and Master’s degree in Economics from the University of Namur, Belgium, and a Ph.D in Economics from Georgia State University.

ABOUT FRC

The Fiscal Research Center provides nonpartisan research, technical assistance, and education in the evaluation and design the state and local fiscal and economic policy, including both tax and expenditure issues. The Center’s mission is to promote development of sound public policy and public understanding of issues of concern to state and local governments.

The Fiscal Research Center (FRC) was established in 1995 in order to provide a stronger research foundation for setting fiscal policy for state and local governments and for better-informed decision making. The FRC, one of several prominent policy research centers and academic departments housed in the School of Policy Studies, has a full-time staff and affiliated faculty from throughout Georgia State University and elsewhere who lead the research efforts in many organized projects.

The FRC maintains a position of neutrality on public policy issues in order to safeguard the academic freedom of authors. Thus, interpretations or conclusions in FRC publications should be understood to be solely those of the author. For more information on the Fiscal Research Center, call 404-413-0249.

RECENT PUBLICATIONS

Growth and Local Government Spending in Georgia. This report is a technical analysis that estimates the effect of local government spending on economic growth at the county level in Georgia. (February 2009).

Georgia Revenues and Expenditures: An Analysis of Their Geographic Distribution. This report presents a geographic analysis of “who bears the burden” of state taxes and who benefits from state public expenditures. (February 2009)

Trends in Georgia Highway Funding, Urban Congestion, and Transit Utilization. This report examines transportation funding, as well as urban congestion and transit utilization in Georgia as well as six other states for fiscal years 2000 and 2005. (October 2008)

Options for Funding Trauma Care in Georgia This report examines several options for funding trauma care in Georgia through dedicated revenue sources, with the objective of raising approximately \$100 million. (October 2008)

Distribution of the Georgia Corporate and Net Worth Tax Liabilities, 1998 and 2005. This brief illustrates the distribution of corporate and net worth income tax liabilities among Georgia corporations. (September 2008)

The Effect of Insurance Premium Taxes on Employment. This report provides estimates of the effect of the insurance premium taxes on state-level employment in the insurance industry. (September 2008)

Variation in Teacher Salaries in Georgia. This report documents the variation in K-12 public school teacher salaries in Georgia and discusses the causes of variation in teacher salaries within and across districts. (August 2008)

A Brief History of the Property Tax in Georgia. This report is a chronology of the development of the property tax system that currently exists in Georgia from the 1852 legislation pointing out significant changes made over the past 156 years. (August 2008)

Estimates of the Effects on Property Tax Expansion Under Assessment Caps Proposed in HR 1246. This report estimates the effect of assessment caps proposed in HB 1246 on county, school district, and city tax base growth. (July 2008)

By the Numbers: Property Taxes in Georgia. This report presents data on the property tax in Georgia, considering the growth in property tax base and property tax revenue, how the tax base varies by county, changes over time, and property taxes by type of government. (June 2008)

Property Tax Limitations. This report discusses property tax limitations in the U.S. and highlights limitations imposed in Georgia. (June 2008)

An Analysis of a Need-Based Student Aid Program for Georgia. This report explores issues associated with establishing a need-based student aid program in Georgia. (May 2008)

A Closer Look at Georgia's Veteran Population. This brief compares demographic information on Georgia's veteran population with that of the rest of the country. (May 2008)

Tracking the Economy of the City of Atlanta: Past Trends and Future Prospects. This report explores the changes in the level and composition of employment in the City of Atlanta over the last 25 years. (May 2008)

Georgia's Immigrants: Past, Present, and Future. This report examines the economic success of immigrants relative to the state's residents as a whole and speculates on how we might expect immigrant populations to fare in the future. (April 2008)

Property Tax in Georgia. This report discusses the structure of the property tax in Georgia and various provisions that make up the structure of the property tax. (March 2008)

A Targeted Property Tax Relief Program for Georgia. This report describes how a targeted property tax relief program could be designed and provides estimates of the cost and distribution of program benefits. (February 2008)

A Historical Comparison of Neighboring States with Different Income Tax Regimes. This report focuses on simple historical differences between states without an income tax and neighbor states with an income tax. (November 2007)

Replacing All Property Taxes: An Analysis of Revenue Issues. This brief discusses the amount of revenue needed to replace all property taxes in Georgia. (October 2007)

Revenue Estimates for Eliminating Sales Tax Exemptions and Adding Services to the Sales Tax Base. This report provides revenue estimates for alternative combination of eliminating sales tax exemptions and adding services to the sales tax base. (October 2007)

Report on the City of South Fulton: Potential Revenue and Expenditures (Revised). This report evaluates the fiscal consequences of incorporating a new city of South Fulton, using Fulton County revenue and expenditure data and benchmarks from other Georgia cities. (October 2007)

Report on the City of Chattahoochee Hill Country: Potential Revenues and Expenditures. Using Fulton County revenue and expenditure data and benchmarks developed from other Georgia city data, this report evaluates the fiscal consequences of incorporating a new city of Chattahoochee Hill Country. (October 2007)

For a free copy of any of the publications listed, call the Fiscal Research Center at 404/413-0249, or fax us at 404/413-0248. All reports are available on our webpage at: frc.gsu.edu.

Document Metadata

This document was retrieved from IssueLab - a service of the Foundation Center, <http://www.issuelab.org>

Date information used to create this page was last modified: 2014-02-15

Date document archived: 2010-05-20

Date this page generated to accompany file download: 2014-04-15

IssueLab Permalink: http://www.issuelab.org/resource/growth_and_local_government_spending_in_georgia_brief

Growth and Local Government Spending in Georgia - Brief

Publisher(s): Fiscal Research Center of the Andrew Young School of Policy Studies

Author(s): Nara Monkam

Date Published: 2009-02-01

Rights: Copyright 2009 Fiscal Research Center of the Andrew Young School of Policy Studies

Subject(s): Community and Economic Development; Government Reform